

Patent Claims

1. A heat exchanger, in particular a charge air cooler or exhaust gas cooler for motor vehicles, having
5 flow ducts, arranged in a housing (3) for a gas to be cooled and a coolant, in which case the flow ducts for the gas are led through tube bottoms into an inlet diffuser and an outlet diffuser (2), and the coolant is led through the housing (3) via coolant connections
10 (4a, 4b), wherein the flow ducts for the gas (8) and the coolant (9) are formed by a metal strip which is formed into a meandering shape and the housing (3) which are connected to one another in a materially joined fashion.

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2. The heat exchanger as claimed in claim 1, wherein the flow ducts (9) for the coolant have a cross section which is open on one side (3a), wherein the tube bottoms (12, 13) are embodied in the manner of combs
20 with prongs (14, 15) which close off the cross sections of the coolant ducts (9) at the ends.

3. The heat exchanger as claimed in claim 1 or 2, wherein the cross sections for the flow ducts (8, 9)
25 are embodied in an approximately rectangular shape.

4. The heat exchanger as claimed in claim 1, 2 or 3, wherein the cross section of the gas ducts (8) is greater than the cross section for the coolant ducts
30 (9).

5. The heat exchanger as claimed in claim 3 and 4, wherein the rectangular flow ducts (8, 9) have an identical length l , but different widths b_1 and b_2 .

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6. The heat exchanger as claimed in one of claims 1 to 5, wherein the heat exchanger (1) has, on one side (3a), a distributor duct (4) and a collecting duct (5)

which are connected to the coolant connections (4a, 5a) and extend transversely over the coolant ducts (9).

7. The heat exchanger as claimed in one of claims 1
5 to 6, wherein the housing (3) has a U-shaped base body (3b, 3c, 3d) and a terminating plate (3a) or two U-shaped sections (17, 18).

8. The heat exchanger as claimed in claim 6 and 7,
10 wherein the terminating plate (3a) and/or the U-shaped section (17) are connected to the distributor duct and the collecting duct (4, 5; 21, 23).

9. The heat exchanger as claimed in claim 8, wherein
15 the distributor duct and the collecting duct (4, 5; 21, 23) are of integral construction with the terminating plate (3a) and/or with the U-shaped section (17) and are shaped from said terminating plate (3a) and/or from U-shaped section (17).

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10. The heat exchanger as claimed in one of claims 8 to 9, wherein turbulence inserts (10, 11) are arranged in the flow ducts (8, 9) and soldered to the metal strip (7).